Traffic Engineering

Official Publication of the Institute of Traffic Engineers

VOLUME XIX | JUNE, 1949 | NUMBER 9

INSTITUTE OF TRAFFIC ENGINEERS
FOUNDED 1930

INSTITUTE OFFICERS

Robert A. Mitchell
President

Harry E. Neal
Vice-President

Wilbur S. Smith
Vice-President

Fred W. Hurd
Secretary-Treasurer

—o—

PUBLICATION STAFF

Robert S. Holmes
Editor

Ann S. Lincoln
Managing Editor

Fred W. Hurd, Martin C. Stark
Associate Technical Editors

Associate Editors

Henry A. Barnes, C. S. LeCraw, Jr., J. A. Carrothers, Eugene Maier, J. E. Havenner, S. T. Siegel, George W. Howie, Wayne N. Volk, Margaret Woolverton.

—o—

Membership information may be obtained by writing to the Executive Secretary, Institute of Traffic Engineers, 212 Strathcona Hall, New Haven 11, Connecticut.

May We Offer . . .

COVER: Construction stage of west end of twin bores which have been blasted 1200 feet through West Rock in Hamden, Connecticut, as a connecting link in Merritt-Wilbur Cross Parkway system. Completion of link is expected by late fall. Portal entrance will be faced with concrete.

Photo Courtesy New Haven Register

Let's Make Proper Use of Parking Meter Revenues 419

Improving Traffic Flow On Arterials 423

Traffic Congestion 427

Traffic Engineering Session of the Greater N. Y. Safety Council 430

Open Discussion 434

Reference Notes 438

Traffic Trends 441

ITE News and Personals 442

Index to Advertisers Inside Back Cover

Published Monthly by the
INSTITUTE OF TRAFFIC ENGINEERS

PUBLICATION office: 400 Watchung Avenue Plainfield, New Jersey

EDITORIAL AND ADVERTISING offices: 212 Strathcona Hall, New Haven 11, Connecticut.

Entered as second class matter November 7, 1941, at the Post Office at Plainfield, New Jersey, under Act of March 3, 1879.

Single copies 20c, subscription price $2.00 per year in the United States. Other publications of the Institute of Traffic Engineers include Annual Proceedings, Traffic Engineering Handbook, and Technical Bulletins.

Permission to reprint contents with customary credit line is given unless otherwise stated.

LETTERS TO THE EDITOR

TALKING TRAFFIC LIGHTS

In "Traffic Engineering" for March, 1949, on page 288, reference is made to some Talking Traffic Lights, which it is stated have been developed by Ministry of Transport traffic experts to guide pedestrians.

I wish to inform you that the device was not developed by this Department. The attention of the Minister was drawn by the inventor to a fitting which he had developed to be attached to traffic signals to warn pedestrians that the lights were about to change. Engineers of this Ministry attended a demonstration of the talking signal, but they did not consider that it would be of practical value to road safety. The Minister has not, therefore, authorized its use, and it cannot be used on roads in this country.

A. E. N. Taylor
Assistant Chief Engineer

Ministry of Transport
Berkeley Square House
London, W. 1.

• The above letter corrects the record. Herewith our apologies to Mr. Taylor and the Ministry of Transport for the erroneous statement published in the March issus.—ED.

—o—

APRIL ISSUE

I want to congratulate you on attaining the position of Editor of "Traffic Engineering", also on the decision to enlarge the publication to a standard size magazine. I am sure this will attract more advertising; the magazine should become self-supporting and a further credit to the Institute.

J. W. Arch Bollong
Member, ITE

Traffic Engineer
Seattle, Washington

—o—

I want to tell you how much I enjoyed reading the April issue of TE magazine. I also noticed the many changes made in this issue and certainly want to compliment you on them. I look forward to receiving the next issue with equal interest.

Bill Taylor

Louisiana State Highway Department
Baton Rouge, Louisiana

—o—

I wish to sincerely congratulate you and your very able staff of co-workers for a swell April issue.

Walter D. Gottschalk
Associate, ITE

Traffic Planning Supervisor
Miami, Florida

—o—

Congratulations! The new April issue looks mighty nice. You probably think it a little silly but among the things that impressed me were the little ink and quill heading for the "Letters to the Editor" column, the little table with a man sitting behind it for the "Membership Elections" column, the crystal ball gazer in the "Looking Ahead" column, etc. These add a nice little touch.

LeVerne Johnson
Associate, ITE

American Automobile Association
Washington, D. C.

PLEASE
SEND

Traffic Engineering

to .....
NAME
.....
ADDRESS
.....
CITY ZONE STATE

ONE YEAR AT $2.00
(1 year at the single copy price would cost you $2.40)

I enclose $ .....

Please Bill Me .....

Mail to TRAFFIC ENGINEERING
Strathcona Hall
New Haven 11, Connecticut

Congratulations on the April "Traffic Engineering" magazine- You really did a swell job on this first issue.

"Dick" Strickland
Junior, ITE

Port of New York Authority
New York City

—o—

I just finished reading the April issue of Traffic Engineering magazine from cover to cover and it is excellent. It sounds personal, homey, friendly and has some technical dope as well. Let's get at least two good technical articles per issue. I liked Paul H. Blaisdell's article (Open Discussion) very much.

Henry W. Osborne
Member, ITE

Traffic Engineer
Buffalo, New York

● We will do our best to follow Mr. Osborne's suggestion and obtain at least two good technical articles per issue. In October the standard-size magazine will provide space for additional technical articles.—ED.

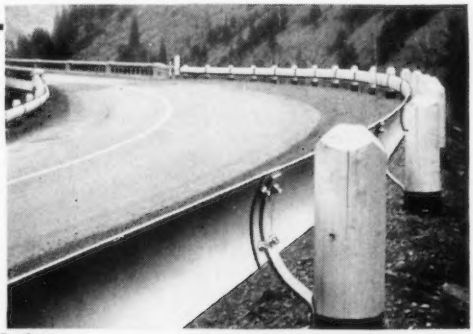
When You Change Your Address

. . . please notify us promptly. Your copies of **"Traffic Engineering"** will then reach you without delay and without interruption.—Traffic Engineering Magazine, Strathcona Hall, New Haven 11, Conn.

A leaflet on the Uniform Motor Vehicle Code, presenting in brief provisions of the five acts of the Code and setting out reasons for their adoption throughout the states, has been published by the National Committee on Uniform Traffic Laws and Ordinances. Copies are available from the office of the committee, 2110 Federal Works Building, Washington 25, D. C.

Exceeds all state safety specifications

TUTHILL HYWAY GUARD



cuts traffic accidents!

Write for technical brochure today!

Super-strong Hyway Guards safely deflect cars and cushion shock to vehicle, occupants and rail. Easily seen by day or night. Speedy, permanent erection with little or no maintenance required.

TUTHILL SPRING CO.
760 W. Polk Street, Chicago 7, Illinois

but it is only half of the story! Here is the rest of it: The Wichita installation comprises 840 *Automatic* PARK-O-METERS and 854 manual meters. Day after day, month after month and year after year since July, 1946, PARK-O-METERS have *collected more net revenue* than the manual meters EVEN THOUGH THE MANUAL METERS ARE LOCATED IN THE AREA CONTAINING THE LARGEST AND MOST IMPORTANT STORES AND SHOPS! The total difference in NET REVENUE during 1948 was $14,330.23 in favor of PARK-O-METER.

Won't you agree that if meters are to be installed they should be those that return the largest revenues to the city? And PARK-O-METERS offer other advantages too . . . ask us for facts and figures.

City Auditor ORAN WADSACK

The annual report of the Wichita city auditor shows the following parking meter NET revenues *over and above* collection and maintenance costs:

	Net Revenue
From 840 PARK-O-METERS	$76,989.29
From 854 Manual Meters	$62,659.06
PARK-O-METER'S Excess	$14,330.23

Mayer-Fiedler PARK-O-METER COMPANY

Let's Make Proper Use of Parking Meter Revenues

by MATTHEW C. SIELSKI *(Mem. ITE)**

Parking meters are here to stay—so is our parking problem! Parking meters are becoming a permanent fixture in the business districts of most large cities. According to the recent edition of the Municipal Year Book, in 1947 approximately 900 cities over 5,000 population were using parking meters. This is a 196% increase since 1942. The number is continuing to increase. Introduction of the meter obviously is an attempt to combat the number one municipal headache—the rising parking problem.

Too many cities have failed to plan for provision of parking areas other than at the curb. It should be apparent by now to municipal officials and businessmen that the parking problem will never be solved at the curb. Obviously a more expensive but practical method of financing a solution to the problem must take place; namely, parking lots and garages.

How instrumental parking meters are in helping to solve parking problems is debatable. First of all, the presence of parking meters without proper enforcement has no effect on the turn-over of parking spaces. It is not the presence of meters that reduces parking difficulties, *but rather the manner in which they are enforced.* This has been clearly demonstrated in a comprehensive study made in ten midwestern cities.

Dir. Safety and Traffic Eng. Dept., Chicago Motor Club, Chicago, Illinois.

How Studies Were Made

"Before" and "after" studies were conducted (Fig. 1) to determine how effective meters were in eliminating the objectionable overtime parking. This study was not made to determine what steps would improve their present operation.

In most cases, the "before" studies were made just prior to the installation of meters and "after" studies were taken from three to six months following the first use of meters. In this study, two different types of checks were made. In the first type of study, license numbers of parked vehicles were recorded every one-half hour of one day, starting at 10:00 A.M. and continuing until 3:00 P.M.

The second type of study, made on different days, was a sort of "case history" study of detailed parking habits of persons using metered parking spaces. The checker observed approximately twelve cars for each parking space studied, recording the exact time vehicles entered and left a parking stall. These observers also indicated how many coins were deposited by these parkers.

These two studies were conducted in identical manner, so far as possible, before and after meter installations. In the ten cities, over 1700 parking stalls were observed. This work required approximately 300 man-hours in the field. The entire study involved an analysis of the parking habits of some 25,000 motorists.

The before and after studies, where license numbers were recorded every one-half hour period, covered the major portion of the main business districts where parking meters were installed. In most cities, there was no appreciable change in time limits before and after the installation of meters. Where changes had been made, they favored a faster turnover of curb space because time limits were shortened.

A typical chart showing the before and after effects of parking meters is illustrated in figure 2.

A comparison of space hours used by overtime parkers is illustrated in figure 3.

Results of Study

The results of these studies showed:

1. No appreciable change in the number of vehicles parked one hour or less.
2. No appreciable change in the number of space-hours used by parkers remaining one hour or less.
3. In seven of the ten cities, an increase in the number of space-hours used by long-time parkers after meters were installed.
4. In two of the ten cities, a decrease in the number of space-hours used by long-time parkers. One city showed no change.
5. Available parking spaces were reduced in number by creation of stalls for parking meters of a uniform size adequate for the longest vehicle.
6. A definite need for enforcement based upon observation of vehicles by means of tire-marking rather than upon examination of parking meters. Without tire-marking, motorists are able to remain parked for long periods of time without detection simply by inserting additional coins into the meters.
7. In Evanston, Illinois, the only city studied which combined tire-marking and parking meter enforcement, a decrease in the

TABULATION OF RESULTS OF PARKING HABITS
BEFORE AND AFTER THE INSTALLATION OF PARKING METERS

CITY		PERCENT OF VEHICLES PARKED				PERCENT FULL	PERCENT OF SPACE-HOURS USED				PERCENT FULL	INCREASE OR DECREASE IN PARKING SPACE TURNOVER
		0-30	30-60	60-90	OVER		0-30	30-60	60-90	OVER		
PRINCETON, ILL. POP. 5,500	BEFORE	65	21	7	7	64%	41	33	18	8	61%	SLIGHT DECREASE
	AFTER	69	20	7	4		+43	32	5	20		
DOWNERS GROVE, ILL. POP. 10,000	BEFORE	81	14	3	2	67%	58	26	8	8	57%	SLIGHT DECREASE
	AFTER	71	21	4	4		42	31	10	17		
DIXON, ILLINOIS POP. 11,000	BEFORE	62	17	8	13	81%	24	23	13	40	67%	INCREASE
	AFTER	68	19	8	5		36	25	19	20		
STREATOR, ILL. POP. 15,000	BEFORE	73	16	6	5	NOT KNOWN	42	23	16	19	65%	NO CHANGE
	AFTER	70	18	7	5		39	25	17	19		
MATTOON, ILL. POP. 16,000	BEFORE	59	22	9	10	62%	27	24	17	32	79%	SLIGHT INCREASE
	AFTER	63	23	7	7		31	27	14	28		
MARION, INDIANA POP. 27,000	BEFORE	60	20	9	11	73%	28	21	18	35	90%	NO CHANGE
	AFTER	52	28	10	10		20	28	17	36		
ELKHART, INDIANA POP. 34,000	BEFORE	64	24	7	5	95%	32	30	15	23	86%	NO CHANGE
	AFTER	63	24	6	7		32	29	13	26		
MOLINE, ILLINOIS POP. 35,000	BEFORE	59	27	8	6	89%	30	34	17	19	91%	DECREASE
	AFTER	62	24	7	7		29	28	14	29		
JOLIET, ILLINOIS POP. 42,000	BEFORE	63	23	8	6	89%	34	31	16	19	91%	DECREASE
	AFTER	55	29	8	8		25	33	15	27		
AURORA, ILLINOIS POP. 47,000	BEFORE	65	21	7	7	89%	32	27	15	26	90%	SLIGHT DECREASE
	AFTER	59	24	9	8		27	27	18	28		

Fig. 1

number of long-time parkers was observed.

This study clearly led to two conclusions: As generally administered, parking meters have not aided the creation of additional parking spaces; and secondly, this shortcoming has been the result of imperfect enforcement, based upon examination of the parking meters rather than upon inspection of automobiles parked.

A solution of the problem involves first of all better use of present facilities, and those cities using parking meters should take steps to properly enforce meters. Since the demand for parking spaces in the business district is increasing, it is of great importance to the business health of the business district that curb space is used efficiently and that proper means be taken for off-street facilities.

Demand for Downtown Parking Facilities

Important to note is the steady increase in the number of vehicles arriving into the business district by cars. In Chicago, for example, a recent study by Lockner and Barton, consulting engineers, disclosed that, despite a stable population, the cars owned by Chicagoans increased nearly 40% since 1931. During this period there was a decided shift in patronage from the streetcar and elevated to motor vehicles for travel to Chicago's loop. Cities throughout the country have likewise been experiencing more and more persons using the automobile as a means of travel to work and to the business district. In addition to the ever increasing number of passenger vehicles there has also been a definite rise in the number of registered motorists.

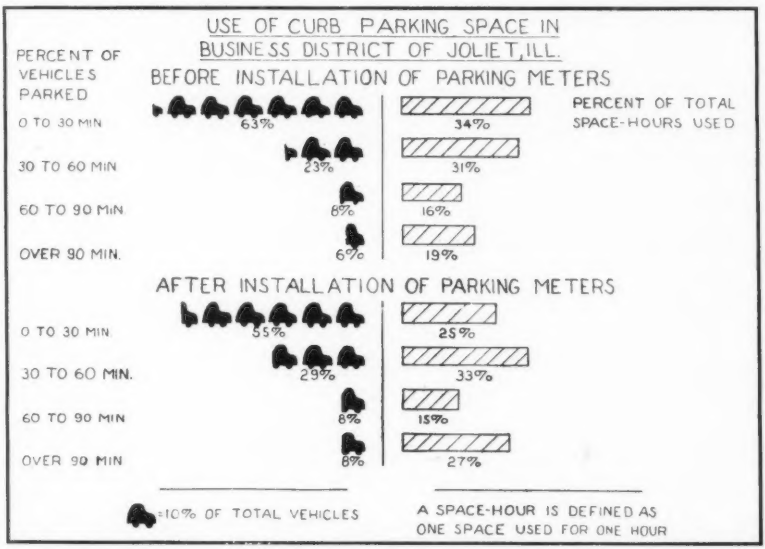


Fig. 2

The days of one driver in the family are gone; the man of the house is no longer considered the "master of the car". The trend is definitely changing. The woman is taking to the road! Daughter and son are also getting behind the wheel. The rising trend in driver education and training in high schools has brought forth a group of new young drivers. The American Automobile Association estimates that over 2,200 high schools offered driver education and training last year throughout the United States. As a result there are 315,000 young persons who learned to drive last year.

Because of the large number of husbands enlisted in the services of our country during the war, many family cars were left at home without a driver. As a consequence many wives learned to drive. Adult driver training schools sprang up throughout the country and today there are literally hundreds of these in operation.

A majority of the students enrolled in these schools are women. Today many cars do not stay idle in the garage waiting for the Sunday driver. It is being used by the housewife for errands and shopping into the business district. The woman, too, has found that travelling by automobile is a convenience not easily given up. They prize the convenience, comfort and speed of the automobile. Therefore, business districts today are attracting an increased number of vehicles for shopping purposes beyond any provisions for parking heretofore made.

Value of Auto-Shoppers To the Businessman

Apparently the health of a business district is predicated upon the services it renders to its customers. Among these services is adequate parking facilities. The shopper arriving by automobile generally will stop where

(*See* PARKING METERS, *page 433*)

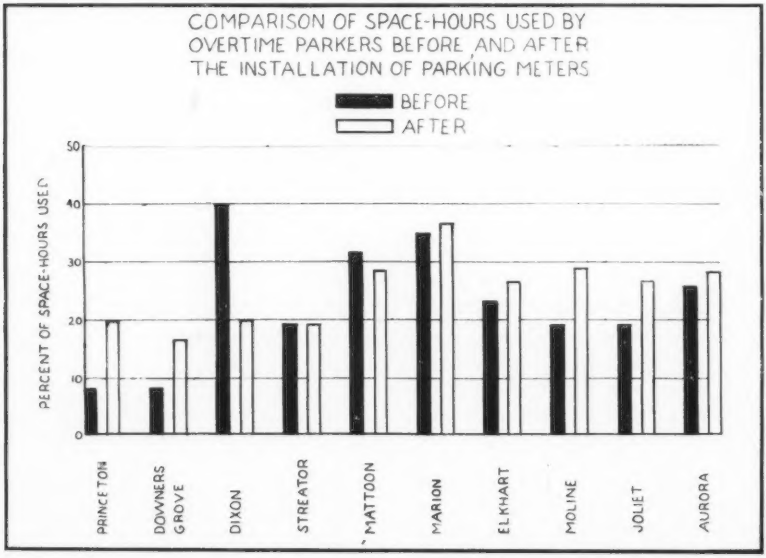


Fig. 3

Improving Traffic Flow On Arterials

by D. J. FAUSTMAN *(Mem. ITE)**

Ed. Note: This paper, presented by Mr. Faustman at the University of California's Institute on Street and Highway Problems Last January, is presented as a continuing feature in this and the following issue. One-Way Streets are discussed herein. Lane Markings, Transit Operations, and Off-Street Parking will conclude the discussion in the July issue.

Sacramento, in common with other California cities, is experiencing a malady, the clinical symptoms of which would confound any physician —growing pains accompanied by congestion of the arteries. The chief consultant called in is the traffic engineer who makes the diagnosis of an inelastic artery trying to accommodate too many automotive units. The traffic engineer, however, has certain remedies to suggest, some of which must be given the patient in sugar coated form since there is always a reluctance to try anything new and different.

The remedies for improving arterial flow that we are going to discuss have been tried and proven in many cities. Some of them we have tried in Sacramento with successful results.

The movement of vehicles in Sacramento has increased 38% since the end of the war, and no decrease in this rate of growth is anticipated for several years. The result of this growth is obvious in terms of accidents and congestion and in the Sacramento area, major construction projects have limited application in the relief of overall congestion because of the time involved and the great expense.

*Traffic Engineer, Sacramento, California.

Although we cannot ignore completely a major improvement program to provide additional bridges to the west, north, and east, practical considerations and the immediacy of the problem demand application of those remedies which will provide some relief without delay.

One-Way Streets

One of the most neglected means of speeding up traffic flow is the one-way street. It has been neglected because of misunderstanding or lack of knowledge of the benefits. As with other traffic changes which appear radical, considerable resistance is usually put up by the merchants in spite of the many advantages of this system, which include:

1. Elimination of head-on collisions.
2. Elimination of headlight glare.
3. Reduction of conflicting movements at intersections. This is probably the most important factor in accident reduction.
4. Increase in street capacity where street width is such as to provide an odd number of moving lanes, one of which is wasted with two-way flow.
5. Elimination of trapping of pedestrians between opposing streams of traffic.
6. Continuous traffic flow through improved signal timing.
7. Increase in motor vehicle speeds.

The disadvantages are:

1. Some increase in distance traveled.

2. Adversely affects certain types of businesses which may be located on the "wrong side" of one-way streets or located on a street operating in a direction not attractive to the "drive-in" trade.

Experience of Other Cities

Of course the one-way street is not the "answer" to the traffic problem, but the growth of one-way streets in the last ten years is indicative of its acceptance as a valuable aid. It should be noted at this point that in many of our eastern cities such as in Boston and Philadelphia, the one-way street was the only method of moving traffic on the narrow, irregular "cow paths" which were paved to become city streets. In those cities, extensive one-way street systems have been adopted because of narrow widths and this has been a determining factor in acceptance by merchants and motorists. In our wide-open western cities which have paved widths of 48-60 feet it has been demonstrated that one-way movement is applicable.

Let me quote some generalities with reference to the experience of other cities before telling you about Sacramento.

Philadelphia—80 to 200 per cent increase in volume.

Detroit—45 per cent increase in volume with a 30 per cent reduction in accidents.

Wilmington, Del.—One-way street accident rate one-half that of two-way streets.

Syracuse, N. Y.—20 to 30 per cent increase in volume with a doubling of average speed.

Fitchburg, Mass.—38 accidents in two years on two-way streets contrasted with five accidents in three years on one-way streets.

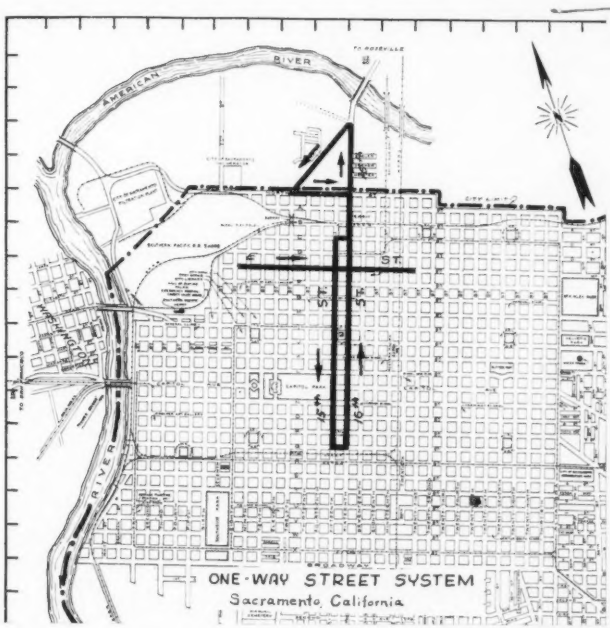
So go the reports.

Oversize signs and channelization are particularly useful in regulating heavy traffic flows.

The Sacramento Plan

Sacramento's pair of one-way streets came about last August as a result of the closing for reconstruction of one of the two northerly entrances to the city.

You will observe from the map of Sacramento that we are hemmed in on the west, north and northeast by the Sacramento and American Rivers. All traffic from the north must use the 16th Street Bridge and then feed into the city by either the 12th Street subway or the 16th street subway. Approximately 42,000 vehicles per day use the 16th Street bridge. The problem was to move this volume through



a signalized Y intersection, a four-lane subway, and a recangular street system of 48-foot streets. Should capacity be increased by prohibition of parking or by use of one-way streets? The decision went to the latter because of the many advantages already discussed, coupled with a strong desire on our part to acquaint Sacramentans with the benefits of one-way streets.

Working with the State Division of of Highways a plan was evolved as follows: The northerly terminal of the system is located at the intersection of 12th and 16th Streets. Southbound traffic moves one way inbound on 12th Street to North B Street, thence westbound to 16th, southbound through the subway to C Street where a channelizing island forces the traffic west one block to 15th Street. Fifteenth Street is one way southbound to Q Street, at which point traffic is directed by signing back to 16th Street. From this point of 16th and Q Streets, 16th Street is one way northbound the entire distance to the intersection of 12th and 16th Streets.

Operation of the Plan

The press cooperated wholeheartedly in publicizing the system, however some confusion resulted from the fact that it was difficult to definitely determine from the Division of Highways the date at which the contractor on the 12th Street subway would commence work. After several conflicting rumors regarding the subway closing, the city put the system inside the city limits into effect on Friday evening, August 20th by removing the masks from the previously erected one-way signs. As was anticipated, the motorists quickly adjusted themselves and within 48 hours the streets were operating well. The Police Department had been concerned with enforcement,

this page all off

but their fears were never realized because one-way streets are self-enforcing.

Some problems developed during the first week of operation of the plan, the most serious of which was blocking of the intersection of 16th and E Streets at the evening peak. This caused traffic on E Street to back up through the intersection of 15th and E Streets, which in turn completely blocked the southbound one way movements on 15th Street. This situation was remedied by making E Street one way eastbound between Seventh and 21st Streets. We then were able to feed three lanes of traffic into 16th Street. We have violated good traffic engineering principles by not establishing a parallel westbound street, but this has proven not to be necessary since, for some unexplainable reason, westbound, or inbound traffic, drains off of 15th Street at many cross streets rather than concentrating on one street as does the eastbound or outbound traffic.

Improvements Noted

After the plan had been in operation for several months, studies were made to measure the improvements achieved by the change. Some merchants were complaining rather bitterly about loss in business, however, the public at large had reacted very favorably to the system.

Figures were developed on 16th Street only, since this was the street on which the only change was the direction of flow. Fifteenth Street had been a minor street prior to routing one way traffic on it. Stop signs had been erected at all intersections except H, J, L, N, and P Streets, where signals had been installed.

It was found that 16th Street was handling about the same average volume as a one-way street as it had when two-way operation was in effect. Before and after speed studies, using the "floating car" method, showed a speed increase of 48 per cent during the off peak hours and 22 per cent during the peak hours.

A 60-day before and after accident study showed a decrease of 19 per cent in accidents on 16th Street. The city-wide accident rate showed no significent change during this period.

The reduction in accidents and congestion in Sacramento on one-way streets verify the results achieved in other cities. While no decisions have been reached on whether the system will remain in effect upon reopening of the 12th Street subway, the "ice has been broken" and the motorists now appreciate what can be done by this type of improvement. As our street system becomes more loaded, the use of the one-way streets will be carefully studied in light of our experience on 15th and 16th Streets. *(Continued in July issue).*

A. S. A. Standardizes Publications

With the adoption of three standard sizes—one for pamphlets (8½x11 in.), one for books (6x8 in.), and one for pocket-size books (5¼x7¾ in.), the American Standards Association has acted to bring about greater uniformity in the size of American Standards. At present, American Standards are published in some 20 different sizes by the many national organizations that are active in the standardization program.

Through its action in approving these standards, the American Standards Association strongly urges all of the Member Bodies of ASA, and other national organizations serving as sponsors for work on standards, to use these three sizes in publishing their own standards as well as those approved as American Standard.

Traffic Congestion

by GUY C. HECKER*

Traffic congestion is assuming alarming proportions in our large cities. Every day, more streets are becoming stagnated, more intersections clogged and more highways throttled. As congestion grows by leaps and bounds, so do our cities head rapidly towards bankruptcy.

City officials must face the fact that the remedies used to ease the traffic problem have not worked. Despite the tremendous sums ladled-out for street widening, new thoroughfares and traffic control measures, congestion continues to harden urban arteries. Costly delays in the movement of people and goods are resulting.

"Merchants, bankers, doctors, lawyers, and industrialists often do not realize the big stake they have in civic problems such as street traffic," according to a report issued recently by the U. S. Chamber of Commerce. A city exists, the report states, because there are means of transportation, because there are streets, and because there are businesses and industries to provide goods and jobs. "When a city does not step up to its responsibilities, everybody suffers."

Decentralization

Too many of the nostrums applied to our sick cities have not solved the problem of adapting the automobile to horse-and-buggy streets. As a result, our population is shifting from the central districts of our cities to the suburbs. This migration is called "decentralization." It leaves in its wake deflated property values; contributes to the growth of blighted areas and has added staggering amounts to the cost of providing public services for the residents in the suburban areas.

Charles M. Noble, New Jersey State Highway engineer, issued a warning recently that deserves attention. He said that if the traffic mess isn't solved soon, stagnation, decay and ultimate bankruptcy will result because people and industries will take flight. "Investment in buildings, industrial plants, homes, parks, schools, water supply and all improvements which make up modern metropolitan areas runs into billions of dollars. To jeopardize this high investment is unthinkable."

Develop Public Transportation

City planners and traffic engineers, after exhaustive study, know that if our cities are to avoid the costly pitfalls of the past, local public transportation facilities must be developed.

Walter H. Blucher, executive director of the American Society of Planning Officials, summed it up recently when he wrote: "Through many of the things done in our cities, we are encouraging our people to use private automobiles when they ought to use some other method of getting where they want to go. It is important, unless we are going to bankrupt our cities by trying to provide facilities which we cannot provide for every individual, that we begin to think in terms of walking, and second, by moving people through the next best method of transportation—mass transportation."

Past experience shows one thing: it is impossible, physically and financially, to widen enough streets to take

*Executive Manager, American Transit Association.

care of the normal daily movement of all persons if they traveled only by private cars.

Better mass transportation facilities is the only practicable answer.

Let me say now that each method of transportation has its place in our economy. Certainly no one in his right mind thinks that people can be talked into giving up their automobiles. However, it is just out of the question to think that all of us can use our automobiles for all our transportation needs.

But why not increased use of better mass transportation facilities? Russell H. Riley of Harland Bartholomew Associates, city planning engineers, says, "Transit vehicles require a much smaller amount of street space per person, and require practically no parking space. The increased use of these facilities is probably the greatest single factor in reducing congestion and in preventing the need of large public expenditures for street improvements."

Comparing the relative efficiency of transit vehicles and private autos has brought about the following facts: a single lane on an express highway can move about 1500 automobiles per hour or, roughly, about 2600 to 2800 passengers. A surface transit vehicle—motor bus, electric trackless trolley, or streetcar—can carry from 9000 to 12,000 persons per hour per lane, depending upon its size. Rapid transit systems can haul up to 40,000 passengers per lane during an hour.

It appears then, that when searching for a solution to the traffic muddle, great emphasis should be placed on better public transportation. Especially is this so *within* the city. Express highways, freeways and the like lead but *to* the city. While it is desirable that these arteries move people and goods swiftly, the most vexing traffic riddles lie within downtown areas.

Downtown Parking Problems

Many people ask just why city administrations don't do something about downtown parking problems. "Why not provide low-rate garages and lots?" the average citizen asks. And he might be answered by another question: "Where can such parking space be found in downtown business areas?" It is not generally realized that just about the same space is needed for parking cars as is needed for offices or other spaces in which the car-owners work.

Modern business buildings provide an average floor area for each worker of about 150 square feet. The space needed to take care of automobiles in the most modern ramp or elevator garage is 240 square feet per car.

Thus, using the average passenger load per auto—1.7 persons—the storage space needed for the auto is about 140 square feet of floor space per person. In other words, if all the workers in one building drove to their jobs, another building of the same size would be needed just to house their autos.

There are many relatively inexpensive ways of increasing the traffic capacities of our streets. For instance, back in 1945 Robert A. Mitchell, Philadelphia's traffic chief, became convinced that it would be necessary to ban parking on the narrow streets of that city. Downtown businessmen, however, greeted the suggestion coolly. "We'll lose a lot of business," they protested, "if shoppers can't park where they want to."

But Mitchell soothed them with a few facts, revealed by a careful survey. Actually, he pointed out, only three or four per cent of all the downtown shoppers were curb parkers.

There are other inexpensive remedies, too, which help ease traffic congestion. Among these are the elimi-

nation of conflicting movements of intersections, use of one-way streets, better timing of red and green lights, and a host of others. What is needed, is a sober-minded group of men in our cities, who will steer clear of visionary proposals that capture the popular imagination, but tug hard on the purse strings. We need realists for our future traffic planning.

Modernized Public Transit

During the last war, the transit industry helped tremendously to keep the wheels of war production spinning. Unprecedented numbers of workers were carried to and from their jobs. Transportation vehicles which had been on the retired lists for years were pressed into use. Existing equipment was kept running day after day and month after month.

One thing was proven during the war years—mass transportation *can* carry the people. With modern vehicles such as the new electrically-driven trackless trolleys, the improved diesel buses and the streamlined streetcars, people are carried efficiently—and comfortably. But most of all, these up-to-date vehicles create the desire to travel by transit.

Creating the desire to ride in buses, trackless trolleys, streetcars and rapid transit trains, is no easy matter, transit operators admit. Fluorescent lights, forced ventilation, soft seats and even FM radio receivers installed in the vehicles are helping to do this.

Already several important cities are using modernized public transit as the spearhead of their anti-congestion compaigns. Among these cities are San Francisco, Chicago, Minneapolis, Cleveland and Philadelphia. Officials and traffic engineers in these communities realize that the movement of people, not vehicles, is the ultimate solution to the traffic dilemma.

A Solution to the Traffic Problem

Some city officials have appealed to the common sense of the motorist, "Why drive through frightfully congested streets, wasting time and gasoline when you can park your car on the outskirts and reach the downtown district, by transit, in a few minutes?" This plan calls for outskirt or "fringe" parking lots. The motorist drives as far as the lot, parks his car either free of charge or at a nominal fee, and completes the trip to town by bus, trackless trolley, streetcar or rapid transit train.

Many existing thoroughfares, connecting homes, theaters, stores and industries make up a network which, if modernized, would provide greater traffic capacity, higher speed and added safety. While expressways are attractive to the motorist, car-owners must not get the idea that, when and if built, they will carry more than a small fraction of the total traffic in any city.

Encouraging the greater use and further development of public transportation should be an integral part of all city planning. Officials of our large cities should acquaint themselves with the facts about local transportation. They must begin to appreciate the fact that through the public transit vehicle, may someday emerge the solution to the traffic problem.

More Parking Meters

Over 1,100 cities of 500 population or more now have parking meters in operation according to the International City Managers Association. During 1948 188 cities of 5,000 population installed meters.

In a one month period 583 cities over 10,000 population collected a total of $2,370,187 from parking meters for an average of $6.48 per month per meter.

Traffic Engineering Session of the Greater New York Safety Council

The Traffic Engineering Session of the nineteenth annual convention of the Greater New York Safety Council was held on Thursday, March 31 in New York City. This session, which is co-sponsored by the Metropolitan New York Section of the *Institute of Traffic Engineers*, was a panel presentation and discussion on the subject of off-street parking and truck terminal facilities.

Mr. T. M. Matson, Bureau of Highway Traffic, was Chairman of the session, and the panel speakers were Mr. S. T. Hitchcock, Public Roads Administration; Mr. Nathan Cherniack, The Port of New York Authority, and Mr. G. W. Ewald, Baltimore Association of Commerce, Baltimore, Maryland.

Parking Surveys

Mr. Hitchcock discussed the survey phase of the parking problem. He stated that the planning and designing for highways was generally accepted as a part of the routine administration of highways but the planning and designing for terminal facilities has not yet been accepted as an integrated part of the highway plan. Regardless of what kind of a parking study is made, they have all shown the need for an integration of the problems concerning parking and those related to highways and vehicles which use them. He stated that "the Public Roads Administration is not in a position to assist the state highway departments or the cities in the construction of parking facilities as they do in the construction of highways under the terms of the present Federal Aid Highway Act. It is possible, however, through engineering and economic investigation carried on in cooperation with the State highway department, with 1½ per cent of Federal Aid funds allotted to each State, to assist the States and cities in the study of traffic and parking problems."

Mr. Hitchcock further stated that destination and parking surveys have been made in forty-two cities and information has been reported from these surveys from more than twenty cities. There are two types of information which these surveys have developed: (1) Where the supply of parking space is, the extent to which they are used, and the demand for spaces; (2) General facts related to parking characteristics in cities of various population groups. Some of his more significant generalizations were as follows:

1. The area of the central business district increases with the population of the city from 0.12 square miles in cities of less than 25,000 to 0.54 square miles for cities of 500,000 and over.

2. The number of blocks increases from 27 to 134 in these groupings.

3. The area of the central business district per 1,000 population decreases from 0.74 to 0.05 in these same population groupings.

4. The number of curb parking spaces in the central business district increases with the population up to cities of 250,000 beyond which there is no appreciable change.

5. The number of curb parking spaces per 1,000 population decreases with the size of cities from 54 to 3.

6. The number of vehicles parking in eight hours per 1,000 population decreases from 432 to 34 as cities increase in size from less than 25,000 to 500,000 and over in population.

7. The maximum number parked in any one time increases with the size of the city but decreases from 62 to 11

per thousand population for the same groupings.

8. Regardless of the size of city the proportion of commercial vehicles parked in the central business district is the same—about 13 per cent.

9. Regardless of size of city the ratio of parking in the peak hour to the average hour is about 15 per cent greater.

10. Overtime parking is reduced by the use of meters at the curb.

11. The ratio of demand for parking spaces to the supply of parking spaces in the "deficient" area increases from 1.3 in the smaller cities to 4.7 in the larger.

12. The ratio of the peak volume of traffic movements to the average hour of traffic movement in and out of the central business district is the same, regardless of the size of the city—that is 1.33.

13. The volume of vehicles passing through the central business district in the peak half-hour of traffic movement increases from 60 per cent in the smaller cities to as much as 90 per cent in the larger cities.

14. The proportion of cars parked less than 30 minutes decreases with the larger cities.

15. The proportion of people who walk less than 400 feet is relatively high in the smaller cities indicating that the parking problem is not too bad—65 to 75 per cent parkers being in this group.

The above photograph was taken as Ted Matson, presiding chairman (extreme left) steered the discussion following presentation of a paper at the traffic engineering session of the Greater New York Safety Council's 19th annual meeting. The panel "experts" leading the discussions are, left to right, S. T. Hitchcock, Highway Engineer, Public Roads Administration; Nathan Cherniack, and W. G. Ewald, Chairman, Off-street Parking Commission, Baltimore. Nat Cherniack, upper right, makes a concluding remark to wind up his discussion of truck terminal facilities.

16. The average length of time parked, regardless of trip purposes and for each trip purpose, tends to increase with the size of the city.

Mr. Hitchcock further pointed out that parking surveys will not indicate the latent demand which becomes evident when new facilities are created nor do they reflect future growth of parking. He believes that these factors may be determined only through repeated parking surveys as new facilities are created. "In no city is a parking program to be carried out in its full extent the first year. As new facilities are created in stages, the effect of these facilities should be studied. As we trace the ratio of supply and demand the curve will flatten out to indicate need," Mr. Hitchcock said.

He closed his remarks by stating: "If I were to summarize our experience with parking surveys it would best be expressed by saying: (1) It is easy to obtain facts, (2) It is difficult to develop the facts into a plan acceptable to all local interest, (3) It is extremely difficult to organize local support for the activation of a parking program. Of the 45 studies made, reports have been developed in some 20 odd cities but in only two or three instances have improvement programs resulted.

So it would seem that any city which has a parking problem should first get all interested groups together to support an action program; second, determine the scope of existing ordinances, administrative responsibilities, and financial possibilities, and last, obtain the facts needed for location and design purposes in developing a plan."

Truck Terminal Facilities

Mr. Nathan Cherniack discussed the parking problem caused by trucks loading at the curb in downtown urban areas. He said that in the garment district in New York all types of curb parking controls for commercial vehicles were tried with partial success. It was his opinion that the only positive cure for congestion caused by trucks loading at the curb is more off-street loading facilities. Mr. Cherniack described the following steps which have been taken by the Port of New York Authority to alleviate truck congestion in the city streets of New York. He stated that long distance trucks, while only ten per cent of truck movement in downtown New York, produced congestion all out of proportion when because of their size, *they load at the curb.* In the absence of central off-street terminals, these trucks frequently pick up and deliver at different places the many small shipments which together comprise their full loads. The new Union Truck Terminal which is under construction in downtown New York will eliminate much of this congestion caused by large trucks. At this terminal small local trucks will provide delivery service for the New York area of shipments entering and leaving the terminal via long distance trucks.

Mr. Cherniack said that every commercial building is a truck traffic generator. In 1940 New York adopted a zoning amendment that all new or substantially reconstructed buildings should provide one truck berth off-street for each 25,000 sq. ft. of floor space in the building. This ordinance and new truck terminals should go a long way toward liberation of the parking space on city streets for through traffic movement.

Facilitation of truck movement and loading at the New York Harbor has also been provided by the Port of New York Authority through the development of balanced design for piers and bulkhead platform.

The Baltimore Off-Street Parking Plan

Mr. Ewald described the creation and activities of the parking commission of Baltimore. He said that the parking commission is not a parking

authority but rather a commission form of public activity created through special legislation. "The purpose of the commission is to help private enterprise develop off-street facilities on their own initiative with help from the commission through their advice, funds, and power of eminent domain," he said. The commission works closely with the city council through a liaison committee of council members—one from each district, with a neutral chairman. In addition to the promotion and the provision of financial help toward the creation of privately owned lots, the commission also works toward the expansion of existing lots and toward the development of parking facilities on city-owned land.

Mr. Ewald listed the progress of the commission as follows: (1) improved legislation for off-street parking; (2) a large loan at low interest; (3) several parking surveys completed in different areas; (4) creation of a favorable condition for expansion of facilities through private enterprise; (5) four definite off-street parking projects in the formative stage of development.

Mr. Ewald pointed out that the commission is interested not only in the parking problems of the *central* business district but also is taking steps to alleviate the problem in the other business districts within the city.

(PARKING METERS, *Cont'd from page 422)*

adequate parking can be found. Those business districts that don't heed these factors soon find that their business is "diseased". In the Chicago study, for example, it was found that property values in the central business district decreased 33% since 1931. The inadequacy of parking terminals was described as one of the main causes of this trend.

Significant to note in the case of the City of Chicago is that 27.2% of sales in the loop retail stores are made to persons arriving by automobiles. Even more significant, a survey showed that the number of auto-borne shoppers would increase to 66% if adequate parking spaces were provided.

The value of auto-borne shoppers to the businessman is apparent to many municipalities. Oakland, California, and Kalamazoo, Michigan, are but a few of the cities where merchants have provided parking lots for their customers and found it very profitable. The conclusion is self-evident that the business district's health is dependent upon those parking facilities. Since this cannot be done at the curb then, obviously, proper facilities must be obtained elsewhere.

Parking Meter Revenue

Because off-street facilities are expensive, plans for such areas are often cast aside. However, the presence of parking meters and the revenues derived can be an excellent solution to this problem. Those cities that use parking meter revenues for purposes other than parking facilities are not taking advantage of an excellent means for solving their parking problems. This gets back to the basic purpose of parking meters—*a means for obtaining revenue to provide more parking space.*

Unfortunately most communities fail to apply parking meter revenues to this basic purpose. The Municipal Year Book (1946) reports that of the 277 cities over 10,000 population reporting on the disposition of parking meter revenues, 225 cities, or 81%, credited the money to the general fund; 39 cities, or 14%, use meter revenues for traffic improvements; seven cities, or 3%, use such revenues for providing off-street parking facilities; and the six remaining cities, or 2%, report that payment is made to

the general fund and part for traffic improvements.

In addition to the vast amount of off-street facilities that could be provided through parking meter revenues, assistance in the financing of the lots might be cleared through businessmen's contribution. As has already been pointed out, since the parking problem has an affect on business such a plan may not be too unpopular.

Parking meter revenues have not received too much objection from motorists because they realize the need for more parking space. They are willing to contribute for the provision of such facilities by paying for the privilege of using parking space in the business district. On the other hand, if motorists do not see any improvement in the local area, within a reasonable number of years, a great wave of protest can be expected to develop. Those cities that attempt to do everything possible to provide parking lots within close range of the business district will not only be solving one of the major problems of the community. They will likewise be making an intelligent use of the revenue derived from the public. Those municipalities that don't take advantage of such parking meter revenue are not keeping faith with the citizens who have trusted in them as competent public servants.

Proper Use of Meters

In summary, the use of parking meters are suggested as follows:

1. To create a more efficient use of curb space.
2. To seek the development of off-street facilities, since curb parking contains no promise of solution of the parking problem.
3. To make off-street facilities attractive and close to business district in order to realize their full potential of value.
4. Since adequate facilities are expensive, the entire excess revenue from meters should be used for financing these projects, coupled with substantial contributions from businessmen who are vitally concerned.

Open Discussion

The Planning Board of St. Paul believes that a ban on parking in the central business district—about twenty-five blocks—is essential. In providing a mercantile district of the city in a healthy state, they have decided to ban parking on streetcar streets. As a beginning parking has been banned on two streets, Seventh Street for five blocks, and Wabasha Street, running at right angles thereto, for five blocks.

Recently small storekeepers—liquor stores, restaurants, groceries, fruit stands, and bakeries—have induced the Council to permit parking on Wabasha Street with thirty minute meters. Some fantastic stories were related by the shop keepers as to their loss of business due to the ban on parking.

After five months, the Planning Board made the following check as to where parkers went after parking their cars on Wabasha.

March 2, 1949, between 11:00 A.M. and 11:30 A.M., and between 2:00 P.M. and 3:30 P.M., 46 occupants of 38 cars were followed.

Twenty-four went to other streets to trade, 16 went to two large department stores who had opposed the meters.

Five went to small stores on the street and one to pay a gas bill.

March 8, 1949, between 9:30 A.M. and 11:30 A.M. and between 2:30 P.M. and 3:30 P.M., 60 occupants of 46 cars were followed.

Twenty-seven went to other streets to trade, 14 went to one large department store that had opposed the meters, 19 went to restaurants, vegetable stores, bakeries, and saloons on Wabasha Street. Two sat in their cars and waited thirty minutes.

G. H. Herrold, Member, ITE
Director, Planning Board

*Readers' comments are invited—Ed.

Parking Meter Fees

If parking meters are to be used to put a new tax on motorists, then the income from them must be used in a way that benefits the vehicle user, an editorial in the Boston Herald recently warned.

The newspaper urged the Massachusetts legislature to deal with the problem of proper spending of meter revenues. It said the legislature can either provide for a reduction in meter fees where income from meters exceeds meter expenses, "or it can provide that any surplus above legitimate costs be used to develop off-street parking".

The newspaper stated that the second approach would be a constructive solution, "for ultimately our main business streets are going to have to be closed to parking, metered or otherwise, and we shall need adequate replacement space".

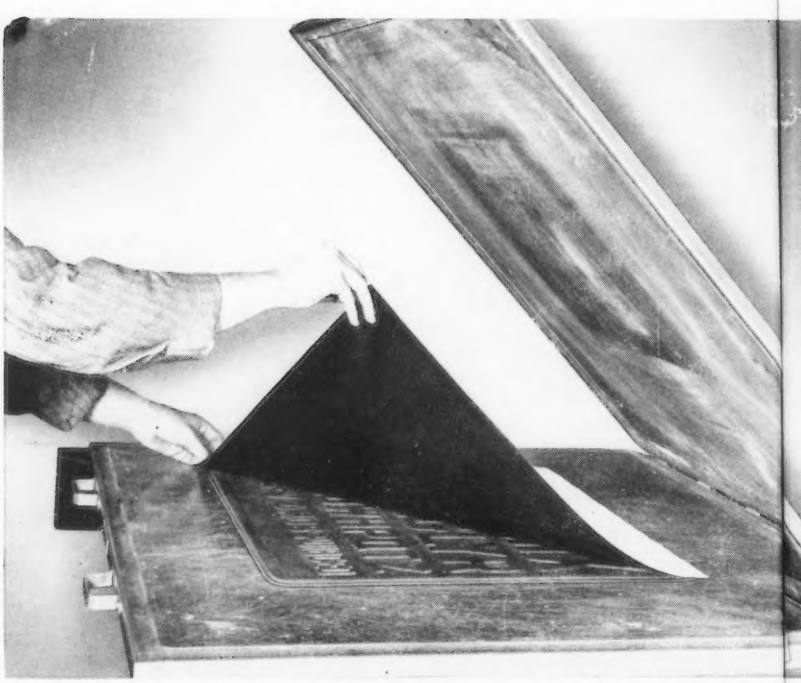
If meters are used to raise revenues for general spending, or if funds from them are earmarked for such purposes as plowing snow off streets which would have to be plowed anyhow, then cities are "really making public parking lots out of the highways" and "ending out the streets", the Herald said.

YOURS FOR THE ASKING.....

A NEW GRANITE CURB FOLDER 7T—Containing complete specifications on fabrication and setting of Standardized Granite Curb, also detail drawing of high speed highway entrances and exits. Every traffic engineer should have it.—Write for your free copy today.

H. E. FLETCHER CO.
GRANITE

West Chelmsford, Mass.
Lowell 7588
104 East 40th St., New York 16, N.Y.
ORegon 9-4210



Type 2 "Scotchlite" Sheeting can be applied to sign blanks by hand roller, roller or with vacuum applicators.

NOW-Dry Adhesive-B
Type 2 "SCOTCHLIT

Reflective Sheeting is now available *pre-coated* with Type 2 Adhesive. It offers you these specific advantages . . .

- No separate adhesives necessary.
- No delay waiting for adhesives to dry.
- Used for both roller or vacuum application methods.
- No drying racks necessary.

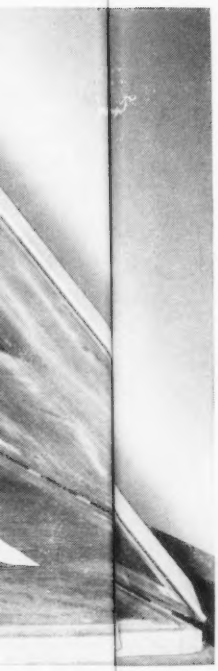
Write today to Dept. Tm details on Type 2 "Scotc for information on ou equipment for flat signs, a cators for embossed signs

If you buy your signs, ou a is yours for the asking, o name of your nearest "t sign distributor.

ANOTHER 3M COMPANY PRODUCT

Also makers of "Scotch" Pressure-Sensitive

General Export: Durex Abrasives Corp., New Rochelle, N. Y.



y hand roller.

e-Bed
HLIT

to Dept. Tmplete
ype 2 "Scotd ask
ion on ou roller
r flat signs, appli-
bossed signs
ur signs, ou atalog
the asking, or the
r nearest "traffic
or.

Adhesive is uniformly applied under rigid factory control, eliminating brushing, spray booths and drying racks.

Longer lasting signs because of "fool-proof" application. Signs are cleaner—stay brighter longer.

REG. U. S. PAT. OFF.

SCOTCHLITE
REFLECTIVE SHEETING

Made in U. S. A. by

INNESOTA INING & FG. CO.

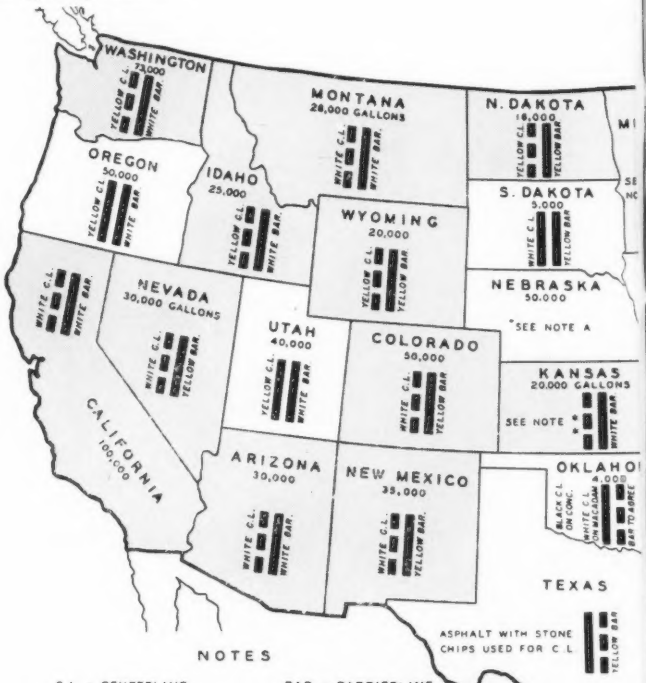
ST. PAUL 6, MINN.

Pressure-Sensitive eal", "3M" Abrasives, "3M" Adhesives

New Rochelle, N. nada: Canadian Durex Abrasives Ltd., Brantford, Ontario

Reference Notes

Thirty States (shaded) are using the geometry or pattern described in the new Manual on Uniform Traffic Control Devices in making bituminous pavements, but five of these use a solid black line for center line on concrete pavements. Twenty-five use the standard pattern on all types of pavements.



NOTES

C.L. = CENTERLINE BAR. = BARRIERLINE

* WHITE SOLID C.L. ON BITUMINOUS MATERIAL: BLACK SOLID C.L. ON CONCRETE.

* * WHITE DASH C.L. ON BITUMINOUS MATERIAL: BLACK SOLID C.L. ON CONCRETE.

* * * YELLOW OR BLACK DASH C.L. ON CONCRETE: YELLOW OR WHITE DASH C.L. ON BITUMINOUS MATERIAL.

* * * * BLACK SOLID C.L. ON LIGHT SURFACES: YELLOW DASH C.L. ON DARK SURFACES.

A ARKANSAS, IOWA AND NEBRASKA USE DASH WHITE C.L. ON BITUMINOUS MATERIAL, SOLID BLACK C.L. ON CONCRETE WITH SOLID YELLOW LINE IN CENTER OF DRIVING LANE TO INDICATE "NO PASSING" AREAS.

B MISSOURI USES SOLID WHITE LINE FOR C.L. ON HIGH TYPE BITUMINOUS MATERIAL; DASH WHITE LINE FOR C.L. ON LOW TYPE BITUMINOUS MATERIAL; SOLID BLACK LINE FOR C.L. ON CONCRETE WITH SOLID YELLOW LINE IN CENTER OF DRIVING LANE TO INDICATE "NO PASSING" AREAS.

C THE STATE OF VERMONT USES A DASH LINE TO INDICATE C.L. AND A SINGLE WHITE LINE TO INDICATE "NO PASSING" AREAS.

D NORTH CAROLINA AND SOUTH CAROLINA USE SAME METHOD AS VERMONT EXCEPT THAT THEY USE BLACK INSTEAD OF WHITE ON CONCRETE.

GALLONAGE OF PAINT REPORTED USED IS INDICATED UNDER NAME OF STATE.

INFORMATION SHOWN WAS OBTAINED IN 1949.

MAP SHOWING METHODS OF MARKING CENTER LINE AND NO PASSING AREAS ON TWO LANE PAVEMENTS IN THE UNITED STATES AND THE CANADIAN PROVINCES OF ONTARIO, QUEBEC AND BRITISH COLUMBIA.

PREPARED BY
CHARLES R. WATERS, DISTRICT ENGINEER, NEW YORK STATE DEPARTMENT OF PUBLIC WORKS, BUFFALO, N.Y., MEMBER OF THE COMMITTEE ON ROADWAY PAVEMENT MARKINGS OF THE HIGHWAY RESEARCH BOARD
FEBRUARY, 1949.

Big Cities Install Parking Meters

More large cities are adopting parking meters, according to a report of the Municipal Finance Officers Association.

In the past the parking meter field was used most extensively by the smaller cities. In 1947, cities under 25,000 in population using parking meters increased 71 per cent over the number using them in 1946. But recently more large cities have been installing meters.

Detroit is the largest city to make use of meters. In October, 892 meters were installed and an additional 612 are now being put in. Receipts for November from the original meters totaled $11,699—an average of $0.41 per meter per day.

Although their primary purpose is regulatory rather than money-making, parking meters are paying off. Each of 26 cities received more than $100,000 in parking meter revenue last year and this number will be increased this year. The phenomenal increase in parking meter installations observed in 1947 when 640 new cities installed meters appears to be continuing in 1948.

Boston installed 5,000 meters in May and estimates it will receive $300,000 revenue from them in the first seven months of their operation. Reading, Pa., anticipates a yield of $15,000 from meters installed only this year. The yield from parking meters in Evanston, Ill., is expected to total $70,000 with the meters in operation only since April 1.

Installed in October 1947, San Francisco's 3,500 meters yielded $18,000 in revenue in the first nine months of operation. Des Moines, Iowa, received $18,000 in revenue from its 1,200 meters in three months of operation last year. Providence, R. I., expects to receive $125,000 from its meters this year—the first full year of operation.

Other large cities that have had meters for some time, and the yields that they expect from this source in 1948 are: Cleveland, $211,500; Washington, D. C., $97,787; Buffalo, $125,000; Newark, $125,000, and Denver, $340,000.

Traffic Digest, Vol 3, No. 1, January, 1949. Highway Research Abstracts, March, 1949.

ON THE SHELF

Compiled by
MISS BARBARA PRATT, *Librarian,*
Yale Bureau of Highway Traffic

Molt, Seward H.

Recent developments in suburban shopping centers. From the Appraisal Journal ($2.50) Jan. 1949. 6p. The basic factors involving success of suburban shopping centers, including traffic problems.

Streeter-Amet Company

Traffic counting. Chicago, Ill. The company, 1949. 24p. n.p. A study of the various problems and methods of counting traffic under different conditions.

Pennsylvania. Department of Highways

Biennial report of the department. Harrisburg, Pa. The dept. 1948. 53p. n.p.

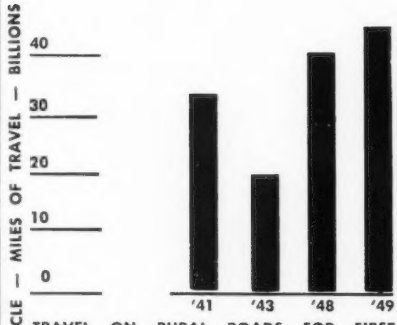
MacDonald, Thomas H.

The time element in the road building program. Presented at the meeting of the Association of General Contractors, March 2, 1949. New York N. Y. 14p. mimeo. n.p.

Washington. State Department of Highways

Origin and destination traffic survey, 1946-1947. Spokane, Washington, Department of Highways, 1948. 94p. n.p.

Traffic Trends



TRAVEL ON RURAL ROADS FOR FIRST THREE MONTHS OF 1941, 1943, 1948 AND 1949.

Based on Public Roads Administration Data

New Traffic Sign Catalog

Traffic signs reflectorized over the entire face of the sign with "Scotchlite" reflective sheeting are pictured and itemized in a new 16-page catalog offered in May by Minnesota Mining and Manufacturing Co., St. Paul.

The reflective sheeting, applied to the face of the metal signs, enables them to reflect at night their true daytime shape, color and legend, the catalog points out. Life expectancy of the reflective sheeting averages seven years.

"Standard 'Scotchlite' traffic signs," the catalog states, "conform to specifications for shape, size, color and style of legend as set forth in the 1948 Manual on Uniform Traffic Control Devices for Streets and Highways, Public Roads Administration, Washington, D. C.

The catalog lists a series of regulatory signs, a warning series, a guide series, a railroad series, miscellaneous signs, and delineators. The signs are made by the 3M company in St. Paul, with special signs made to order.

June 24-25—PORTLAND, OREGON

Annual Meeting, Western Section, ITE—F. B. Crandall, Traffic Engineer, Oregon State Highway Department, Box 30, Salem, Oregon.

July 5-22—EVANSTON, ILLINOIS

Northwestern University Institute for Traffic Training.

Northwestern University — Traffic Engineering course, July 11-15. Frank M. Kreml, Director, Northwestern University Traffic Institute, 1709 Judson Avenue, Evanston, Ill.

July—LOS ANGELES, CALIFORNIA

Second California Traffic Engineering Conference.

University of California—Joseph E. Havenner, Manager, Public Safety Department, Auto Club of Southern California, 2601 S. Figueroa Street, Los Angeles 54, California.

July 13-15—SEATTLE, WASH.

First Washington Traffic Engineering Conference.

University of Washington—R. G. Hennes, Prof. of Civil Engineering, University of Washington, Seattle, Washington.

July 13-16—MEXICO CITY

American Society of Civil Engineers (Regional).

September 6-16—NEW HAVEN, CONNECTICUT

Yale University Institute for Traffic Training.

Yale University—Traffic Engineering Course, September 12-16. T. M. Matson, Director, Bureau of Highway Traffic, Strathcona Hall, Yale University, New Haven 11, Conn.

ITE NEWS AND PERSONALS

Annual Meeting News

Detailed preparations for the 1949 annual meeting of the *Institute of Traffic Engineers* are rapidly nearing completion.

Scheduled for the latter part of September, the 20th convention is slated to be the most educational gathering of traffic engineers ever held. However, the local arrangements committee will also provide traditional ITE entertainment including special features for ladies.

The educational theme will not only be highlighted in the technical sessions, but will be carried through a field trip which will present an opportunity to view several of Washington's traffic facilities. Plans are under way to demonstrate the actual planning of such facilities and the procedure presently used in observing their operations. The Public Roads Administration will operate test equipment at some of the locations to be inspected. Highway capacity, speed, placement and weaving distances will be studied both in theory and practice.

Convention facilities in the Wardman Park Hotel are the most generous of any ITE conventions. The main conference room will accommodate approximately 600 people while the headquarters room will hold about 500 people.

Invitations are to be sent to some 500 engineers and transit officials in the Washington area. It is anticipated that attendance records for this meeting will be considerably larger than any previous ITE gathering.

Armand Keeley's special Manufacturing convention committee is producing results. Checks are being received through Mr. Keeley at national headquarters from manufacturers willing to help underwrite the *entertainment* features of the annual meeting. Contributors to date are:

American Decalcomania Company
Automatic Signal Corporation
Dual Parking Meter Company
A. J. Gerrard & Company
International Meters, Inc.
Kelly-Creswell Company
Remington Rand, Inc.
Union Metal Mfg. Co.
Western Railroad Supply Co.

Nominating Committee Reports

Edwin F. Koester, Chairman of the Institute's Nominating Committee, officially submitted his report to the Secretary-Treasurer on the first of May. Nominations of the committee for Officers and Directors for the coming year are as follows:

For President:
Wilbur S. Smith
For Vice-Presidents:
Nathan Cherniack
Harry E. Neal
For Secretary-Treasurer:
Henry W. Osborne
For Directors:
J. E. P. Darrell
Oscar M. Gunderson
Donald M. McNeil
Charles W. Prisk
Virden A. Rittgers
T. Tarson Wiley

The voting members of ITE have been officially notified of the above candidates. Additional nominations

from the membership-at-large, by petition, may be made prior to July 15th. Formal election of four Officers and three Directors will be consummated at the time of the Annual Meeting.

Members of Koester's committee are J. W. Arch Bollong, Walter H. Klapproth, Theodore M. Matson and Roger L. Morrison, all past members of the Board of Direction of the Institute.

Secretary's Column

The report of the Nominating Committee is publicized in this issue. In submitting the nominations, the committee made several policy recommendations to the Board of Direction, requesting they be adopted for the guidance of future committees. These recommendations will remain confidential until they are officially reported at the next annual meeting. However, after three major changes in the Constitution and By-Laws, in as many years, it is your Executive Secretary's opinion that we have finally arrived at an equitable system of rotation and representation of Officers and Directors.

We have particular reference to pending changes in the By-Laws to provide for geographical representation of Directors (p.330, April issue). These changes will divide the United States into six districts, based on equality of representation by the voting membership. Each district having vacancies pending on the Board will be represented on the Nominating Committee for that year. At the time of election, the voting members in any respective district with one or more candidates will be the sole judges for the selection of their representatives. In other words, the membership-at-large will vote for the Officers, but each District having vacancies will vote for their representative. This method should eliminate, in the future, all sectional differences and assure a balanced representation of Directors for the entire membership.

The Nominating Committee this year endeavored to guide their selection of candidates for Director on the basis of the pending geographical changes. The "law of averages" may prove their efforts successful, even though the division of candidates by districts can not be shown in the ballot under present constitutional provisions. In any event, a sound, workable solution for selection of members to the governing body of the Institute has been proposed which we believe will meet with the whole-hearted approval of the Board and the membership.

—Robert S. Holmes

PERSONAL ITEMS

GEORGE HOWIE extending many professional and social courtesies to Miss Ann Lincoln on her recent business trip to Cincinnati in connection with new advertising contracts . . . **EARL REEDER** and **WALT GOTTSCHALK** busily preparing a miniature model of a complicated intersection that has been signalized and channelized as their contribution to the Convention of Planning Officials meeting in Miami. . . . **DWIGHT McCRACKEN** visiting natonal headquarters for a brief chat with some "red hot" ideas for the Biscuit Banter Breakfast. The word has been passed along to **"SKINNY" DeYOUNG,** chairman of the Resolutions Committee. . . . **BUD YOST** recently covering the Vocational Guidance counselling meeting of the Engineering Society of Detroit as official representative for the Michigan Section ITE. He reports that he advised all high school students interested to consider a traffic engineering career. . . . **NAT CHERNIACK,** former chairman of the Codification Committe, passing on some excellent ideas to new Technical Committee chairmen **"CY" VEY,**

HANK OSBORNE, ED WETZEL, and **LOU BENDER** at a recent informal bull session in New York City. . . . **"NICK" CARTER** on an extended fishing trip with family. He prefers his vacations in the Spring. . . . **ARCH BOLLONG** busily ironing out final details for the first Washington Traffic Engineering Conference in July, ably assisted by other members in the Seattle area. . . . **PETE HALE** serving "refreshments" at a housewarming in Wallingford for ITE'ers in the New Haven area. Pete has just completed a new home on a hillside overlooking a beautiful valley, complete with lake. He participated in the construction as designer and builder. . . . **DWIGHT MYERS,** principle speaker at Rhode Island Highway Association outing. His talk centered around a pending bill in the General Assembly for the creation of off-street parking facilities. . . . **HOWARD BAKER** assigned the task of organizing a new accident prevention department for Montreal Tramways. Howard reports it's both a promotion and a wonderful opportunity to work on a million dollar problem. . . . **JOE HAVENNER** going great guns with the only "local" publication of the Institute. The "Westernite" is performing yeoman service in keeping the scattered members of the Western Section fully informed of Traffic Engineering activities at home and **abroad.**

Use of Traffic Code

A major step toward traffic safety by bringing its traffic laws into closer conformity with the national model code has been taken by the State of Wisconsin. In cooperation with the National Highway Users Conference, the Wisconsin Highway Users Conference presented to state officials a comparison of existing Wisconsin laws with the parallel provisions of the Uniform Vehicle Code of the National Conference on Street and Highway Safety.

SECTION NEWS

Midwest Section

On April 1, 1949 the Midwest Section held a meeting at the Engineers Club, 314 Federal Street, Chicago. There were 38 members in attendance including 13 University of Illinois Student Chapter members.

The Midwest Section assisted in making arrangements for a field trip throughout the City of Chicago for Professor Wiley and his "boys". The itinerary consisted of a tour of the Chicago Park District offices, starting off with a meeting in the Conference Room. Dick Hofer, Traffic Engineer for the Chicago Park District made comments on before and after studies of amber visors and lane line delineators. The students saw samples of bulletins, tabulating and duplicating equipment, the planning section, some of the models of future park district boulevards, and the files of accident and collision reports. They also visited the shops where they saw signs painted and the application of reflectorized material.

Soldiers Field parking lot and the shuttle bus operation was explained to them. They also visited the Island Airport. Later in the afternoon they were conducted on a tour which included an inspection of a master traffic signal controller for Chicago loop traffic signals, and the Chicago Transit Authority offices where they saw the motorability testing machine. They also witnessed a training demonstration.

During the evening they were guests of the Midwest Section at a social hour and dinner. After dinner a film on the research and development of the hydraulic fins used on the boulevard system of the Chicago Park Dis-

REFLECTO-LITE

TRADE MARK REG.

DIRECTS AND WARNS • WORKS NIGHT AND DAY

REFLECTING ALL ANGLE SIGN MATERIAL

FLASHES SOONER — FLASHES BRIGHTER IN THE BEAMS OF HEADLIGHTS AT NIGHT

New All-Angle Reflecto-lite stands 24-hour sentinel guard at danger points in cities and towns . . . along highways and roads . . . directing and warning . . . preventing accidents and saving lives. Used, tested and approved by many state and municipal governments. Comes in convenient sheet sizes to fit your sign shop requirements in yellow, white, black and assorted colors. Applied with Reflecto-lite adhesive for both standard vacuum applicator or roller type application.

WRITE NOW!

Samples and full information are available on request from the address below.

MANUFACTURED BY REFLECTO-LITE DIVISION OF

AMERICAN DECALCOMANIA CO.

4334 W. FIFTH AVE. — CHICAGO 24, ILLINOIS

• BRANCH OFFICES IN ALL PRINCIPAL CITIES •

trict was shown. After the showing of this film the students attempted to "stump the experts".

HARRY PORTER, JR.
Secretary-Treasurer

New York Metropolitan Section

The New York Metropolitan Section held a meeting on March 31, 1949 in conjunction with the Greater New York Safety Council's Annual

Meeting. The following 29 members and guests were present, a majority of whom are shown in the group photo above.

MEMBERS
Louis Bender
Nathan Cherniack
Edward Cyr
Jerome Franklin
John Gibala
Ernest Goodrich
Herbert Keegan
Herbert Klar
Theodore McCrosky
Charles Michalski
Virden Rittgers
Stanley Siegel
Walter Spratt
Richard Strickland
Edward Wetzel
T. T. Wiley

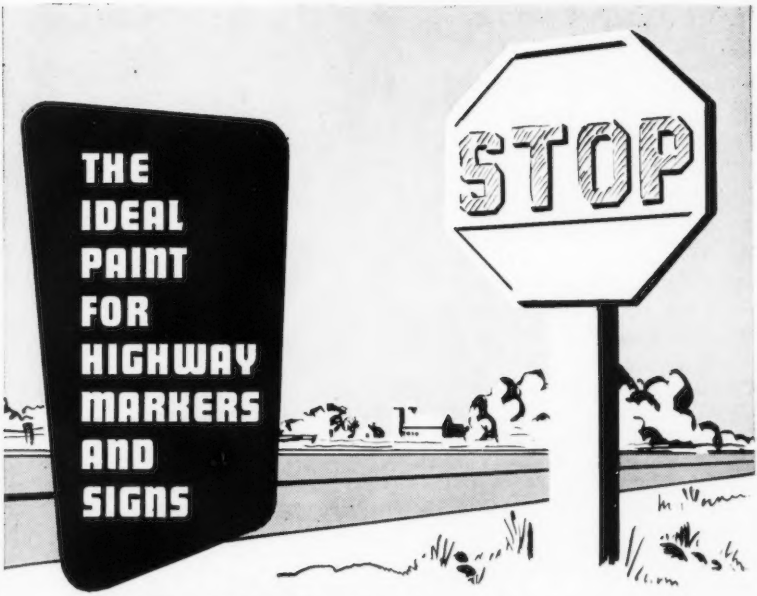
GUESTS
Edward Capillo
S. T. Hitchcock
Robert Holmes
Fred Hurd
Martin Klein
Charles Lenz
William Lenz
Herbert Levine
Theodore Matson
Henry Osborne
Edward Rieger
Wilbur Smith
Deane Terry

President Rittgers called the meeting to order at 8 P.M. and introduced Bob Holmes, Executive Secretary, ITE, who made a few remarks concerning the Institute and his new job as editor of "Traffic Engineering" magazine. He stated that circulation has increased 30% in the past two years and that the magazine was to be increased to standard size in October.

After a short business meeting President Rittgers introduced the guest speaker of the evening, Mr. Theodore McCrosky, City Planning Engineer of the firm of McHugh and McCrosky, who delivered an interesting talk on the role of the traffic engineer in city planning.

A lively discussion period followed in which all members participated.

HERBERT KEEGAN
Secretary-Treasurer



NAZ-DAR *Weatherproof* SILK SCREEN ENAMEL

BY ACTUAL TESTS, a number of states have found NAZ-DAR Silk Screen Enamel FAR SUPERIOR to any other, and are using it with great satisfaction.

IT STANDS THE GAFF! Withstands exposure for indefinite periods . . . dries with a hard and tough surface with a fine glossy finish. Comes in paste form . . . 1 gallon will cover from 900 to 1200 sq. ft.

HEADQUARTERS FOR ALL SILK SCREEN SUPPLIES — colors, silk, squeegees, stencil knives, etc.

WEATHER PROOF

Write for full information and prices.

TE 6-49

THE NAZ-DAR COMPANY · 469-483 MILWAUKEE AVE., CHICAGO 10, ILL.

Washington Section

The Washington Section held a regular meeting on April 13th in the Club Studio, Hotel Fairfax. Mr. Louis Justement, architect, gave an interesting talk on "VIEWS AND INTERESTS IN URBAN PLANNING WITH RELATION TO URBAN TRANSPORTATION". Mr. Justement has written numerous articles on this subject and is author of the book "New Cities for Old". A very interesting discussion followed his presentation.

The President reported that the Washington-Metropolitan Chapter of the American Institute of Architects had extended to all members of the Washington Section a cordial invitation to attend a seminar on the Washington Plan to be held in the Auditorium of the Department of Interior on Friday, April 29, at 8:15 P.M. The seminar would be attended by members of the National Capital Park and Planning Commission; by General U. S. Grant, III, Chairman of the Commission; and by Mr. John Nolen, Executive Director. The Washington Plan would be discussed and slides would be shown illustrating some of the charts and maps from the Report on the Comprehensive Plan of Washington now being prepared by the Commission.

GORDON K. GRAVELLE
Secretary-Treasurer

Western Section

The Western Section of the ITE will hold its annual meeting in Portland June 24-25 in conjunction with the Western Safety Conference and a meeting of the American Society of Safety Engineers.

Bruce Crandall, Oregon state traffic engineer, who is in charge of arrangements, announced that this year's meeting will be "an informal exchange of ideas" and that emphasis will be placed on member participation in general sessions.

In addition, a panel of ITE personnel will be scheduled in the traffic safety section of the Western Safety Conference to be held June 26-29. Besides sessions in traffic, the safety conference will hold panel discussions and general sessions in the fields of marine, industrial, aviation, home and public safety.

Membership Applications

NEW

DUCKER, WALTER E.
2464 32nd Avenue North
St. Petersburg, Florida

GEE, JOHN MORTON
610 S. State Street
Caro, Michigan

SMITH, LE ROY, JR.
753 No. Findlay Avenue
Montebello, California

WATERS, CHARLES R.
65 Court Street
Buffalo 2, New York

WILCOX, ROSS G.
626 Judson Avenue
Evanston, Illinois

TRANSFER

HOWIE, GEORGE W.
411 Lincoln Park Drive
Cincinnati 3, Ohio

Yearbook Changes

KAMY, MAJOR HARRY D., 04232
2776 41st Avenue
San Francisco, California

LAWTON, LAWRENCE
Asst. Civil Engineer
Dept. of Traffic Engineering
City of New York

SEND MAIL: 1516 Union Street
Brooklyn 13, New York

STANCER, WILLIAM A.
4617 South Fawcett
Tacoma 8, Washington

THE HUNT COMPANY · ESTD. · DETROIT 21 MICH

available

SIGN POSTS
ROUTE MARKER POSTS!

PARKING SIGNS
SPEED LIMIT SIGNS
WARNING SIGNS
STREET NAME SIGNS
SPECIAL SIGNS

in

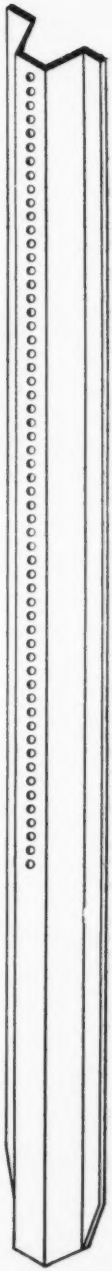
FLAT TYPE either single or double faced. **EMBOSSED TYPE NON-REFLECTORIZED** and **REFLECTORIZED** of Scotchlite, glass, or plastic units.

Write for Catalog and Prices

THE HUNT COMPANY

Established 1920

3700 W. McNichols Road
Detroit 21, Mich.



New Appointments . . .

PHILIP S. MANCINI (Assoc., ITE) was sworn in on January 3, 1949 as Director of the Department of Public Works for the State of Rhode Island. This first appointment was to fill the unexpired term of the former Director until State Senate approval could be obtained. This was forthcoming in March, and on the 29th of that month he was again sworn in by the Governor for a two-year term. Prior to this appointment, Phil served as Public Service Engineer and Acting Traffic Engineer for the City of Providence. His new position, in addition to other responsibilities, places him in charge of the separate Divisions of Roads and Bridges, Harbors and Rivers, and Automotive Equipment. Phil states

(*See* MANCINI, *page 454*)

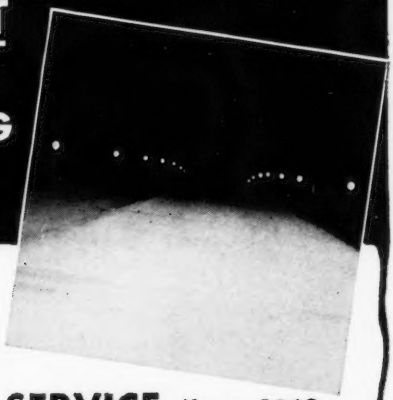
WILLIAM J. WELLER (Mem. ITE) moved up to a top administrative position at the turn of the year as Executive Assistant to Honorable Dorothy McCullough Lee, Portland, Oregon's first woman Mayor. Bill worked as Transportation Engineer the preceding three years for Mayor Lee, in her former position as Commissioner of Public Utilities. Prior to that he was Assistant Traffic Engineer of the city for seven years. He reports that he was somewhat reluctant to take on the duties as Executive Assistant to Mayor Lee. However, knowing of her sincere interest to better traffic conditions and the mass transportation system in Portland; and inasmuch as she had taken under her jurisdiction the Bureau of Traffic Engineering and the Traffic and Transportation Commission as additional responsibilities, he felt that he could render a service in this new capacity that would be desirable. Bill has an opportunity rarely afforded traffic engineers—to receive a top *administrative* education in municipal government. He aptly expressed his views on the present assignment as follows: ". . . as you know, I am not a politician—this position is a job of work."

JAMES T. WHITE was appointed Traffic Engineer for the City of Evansville, on February 1, 1949, after serving as Traffic Engineer for the City of Ft. Wayne, Indiana, since March 1, 1939. Jim is directly responsible to the Board of Public Safety, heading up the department which is to be more formally placed in the city structure of departments within the coming month or so. It is the responsibility of the department to formulate plans and programs pertaining to the better use of present street facilities, improvement of parking, and traffic conditions

(*See* WHITE, *page 454*)

PROOF!

that CATAPHOTE GLASS REFLECTOR BUTTONS ARE LOWEST COST MEANS OF REFLECTORIZING SIGNS



8 YEARS OF CONTINUOUS SERVICE (from 1940 until now) on the Pennsylvania Turnpike (shown above) and these delineators continue to give top visibility under every kind of adverse weather condition. There has been *no* maintenance or replacement of these glass reflector buttons since their installation and their durability has been a big money-saver for the Turnpike.

They should last many more years.
All we know is—

THEY'RE STILL GOING STRONG!

WRITE FOR COMPLETE CATALOG

CATAPHOTE CORPORATION

TOLEDO, OHIO

REFLECTORIZED SIGNS AND SIGNALS • GALVANIZED SIGN POSTS • PARKING SIGNS
DANGER SIGNALS • STREET NAME SIGNS • BUTTONS & CHAINS

Personalities . . . .

The word pioneer has about it a sort of charm. It is a romantic word. It brings to mind one paving the way for others by overcoming obstacles, by opening up new vistas and by setting a pattern for those who follow.

As in all fields, traffic has had its pioneers. EDGAR F. COPELL, traffic engineer of Massachusetts, was one of these. Eddie, as he is familiarly known, was appointed traffic engineer, in charge of state highways, almost a quarter century ago.

In those days, traffic engineering as such, was not too well known nor practiced. What prevailed elsewhere was true in Massachusetts. As an example: there was no systematic method of directing highway travelers within the state. Such as there was consisted of colored bands painted on utility poles. These markings, too, were confined to Federal routes. Copell was quick to recognize their inadequacy. As a consequence, he not only designed the directional signs now so plentiful on Massachusetts highways, but likewise established the present numbered route system.

Following the withdrawal of the state traffic engineer, an office established in 1930, Copell in 1935 was certified for the position of Chief Traffic Engineer by civil service. His duties thus became considerably broadened since under Massachusetts law practically all traffic activities of mu-

(See COPELL, page 456)

The "lamp bug" must have bitten KIRK M. REID at a very tender age, as we fail to find any evidence of his straying from the lighting field since he walked off the stage with a Cornell University E.E. sheepskin in his grasp back in 1920. He has been with the Lamp Department of General Electric Company from that date, with the exception of one year as Lighting Engineer for the Houston (Texas) Lighting and Power Company.

Kirk's lighting career began in the Plant Engineering Department of General Electric at Nela Park, Cleveland. He later became technical writer of the Nela Engineering Department and since 1929 has held the title of Illuminating Engineer in charge of the Nela Park Engineering Division activities in street lighting and traffic signals. Not content with this large assignment he annexed the responsibility for sports lighting and building flood lighting for two years (1929-31), cornered these activities again in 1946 and expects to retain them "until further notice."

Unfortunately, we do not have the space necessary to cover the many interesting research activities, studies, and developments revolving around Kirk in his 30-year career with General Electric. Among the more important is his pioneering in quantitative evaluation of visibility on streets.

For these basic studies, Mr. Reid,

(See REID, page 456)

★ With MIRO-FLEX --- YOU CAN DEPEND ON—

UNIFORMITY---

Depend, too, on good traffic control with signs that meet the most rigid specifications. Modern production methods insure absolute uniformity in Miro-Flex, America's finest complete sign line. Deeply embossed on galvanized, bonderized steel. Finished in baked enamels. Motorists appreciate Miro-Flex signs . . . always dependable . . . easily seen, easily read. Also available with glass or Lucite buttons . . . or with beaded reflectorization. Write for catalog and quotations on standard or special orders.

6-49

MANUFACTURED BY

MIRO-FLEX CO., INC.

1824 EAST SECOND STREET · WICHITA, KANSAS

(MANCINI, *Cont'd from page 450)*

that he considered himself an exceptionally busy man prior to this appointment, but now realizes that his time is no longer his own. However, he still retains his position as Secretary of the Rhode Island State Board of Registration for Professional Engineers and Land Surveyors. At the present time he is working closely with the City of Providence on a $1,000,000 program of highway improvement the city would like to finish this year.

(WHITE, *Cont'd from page 450)*

as a whole. He works closely with the City Engineer in formulating plans for street improvements, and coordinates the activities of his department with those of the City Planning Engineer in the development of long range programs.

Jim states that his education was secured through the school of hard-knocks, having attended the public high schools in Ft. Wayne, Indiana, and Indiana University extension courses of the same city. He is registered as a Professional Engineer in the State of Indiana, is a member of the National Society of Professional Engineers, and Indiana Traffic Engineers Association, having served as president of the latter during 1947-48.

At the present time, Jim is endeavoring to secure the services of the Indiana State Highway Commission for the purpose of conducting a parking survey within the central business area.

New "Gearshift" Parking Meter Introduced

A newly developed parking meter known as the Dual "Gearshift" Automatic, designed to greatly simplify the re-timing of meters whenever desired, has just been announced by The Dual Parking Meter Company and is being introduced nation-wide this month.

In explaining the new meter, E. W. Ellis, Dual executive vice-president, pointed out that in practically every municipality there are times when it becomes highly desirable to change the parking limit in certain zones from 1-hour to 2-hour or vice versa. This is due to changes in the handling or flow of traffic, to changing seasonal conditions or special events, or to any one of various similar conditions.

"With this in mind," he said, "we have incorporated in our new meter design a quickly accessible lever, which, when re-positioned, changes the gearing of the movement to either 1-hour or 2-hour time limit as desired. This now can be done instantly, on the spot, simply by opening the meter case, removing the mechanism dust cover and making the simple lever adjustment. Also, the new design now permits other often-desired changes in timing or coin combination to be made almost as quickly and easily."

Also included in the additional refinements reported by Dual are greatly improved visibility of the timing flag and numerals; improved linkage for more certain activation by coins of different denomination; and a new, positive method of keying gears to shafts, wherever major torque occurs, to eliminate all possibility of "breaking loose".

A new bulletin, No. DU-503, describing the Dual Gearshift Automatic Meter in greater detail, can be obtained by writing to The Dual Parking Meter Company, Canton 2, Ohio.

CROUSE-HINDS

Double-Red

Highway Signal

gives greater safety

The **"DOUBLE RED"** saves LIVES.

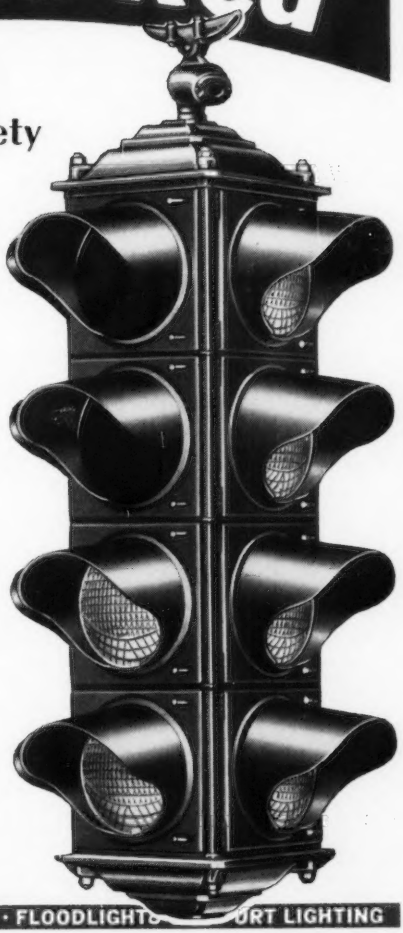
Traffic signal lamps, even new ones, may burn out at any time, but there isn't one chance in a million that two adjacent lamps will ever burn out simultaneously. Therefore Crouse-Hinds' "Double Red" Traffic Signal with its two red sections operating together eliminates the hazard of a burnt-out red lamp.

If one red lamp burns out, the other carries on, and thus provides a positive STOP indication until the burnt-out lamp is replaced.

The "Double Red" also gives double visibility, thus providing greater safety.

The "Double Red" Signal operates from standard controllers and does not require any extra circuits.

Already in operation in many localities, Crouse-Hinds' "Double Red" Highway Signals have proven their value in reducing accidents and saving lives. Write for additional information.



Crouse-Hinds Catalog 226 lists a complete line of traffic signals, beacons, flashers and a series of controllers designed to help you solve your traffic control problems . . . from simple installations up to the most complex heavy traffic problem. Send for your copy.

A Nationwide Distribution Through Electrical Wholesalers

CROUSE-HINDS COMPANY

Syracuse 1, N. Y.

Offices: Birmingham — Boston — Buffalo — Chicago — Cincinnati — Cleveland — Dallas — Denver — Detroit — Houston — Indianapolis — Kansas City — Los Angeles — Milwaukee — Minneapolis — New York — Philadelphia — Pittsburgh — Portland, Ore. — San Francisco — Seattle — St. Louis — Washington. Resident Representatives: Albany — Atlanta — Baltimore — Charlotte — New Orleans — Richmond, Va. — Salt Lake City.
CROUSE-HINDS COMPANY OF CANADA, LTD. Main Office and Plant: TORONTO, ONT.

TRAFFIC SIGNALS · CONDULETS · FLOODLIGHTS · [illegible]ORT LIGHTING

(COPELL, *cont'd from page 452)*
nicipalities must have the approval of the Department of Public Works. He is now aided in this work by seven assistant traffic engineers, one in each of the seven districts.

Eddie was among the first to recognize the value of Highway Planning Survey. Because he was successful in selling the idea of the "Survey" to commissioners of years past, the state has benefited greatly by the data gathered. Within the past two years, Copell, as chairman of the engineering committee of the Legislative Recess Committee, was able to utilize survey material in the preparation of the "1948 Master Highway Plan of Greater Boston". Again in his "State Highway Needs Report of 1948", he found his judgment concerning the "Survey" confirmed. Incidentally he recently completed exhaustive origin and destination studies in Boston and Lowell.

He has done considerable to enhance the field of traffic engineering. Over the years, much that has been thought provoking and stimulating has come from his pen. He has gained prominence as a platform and radio speaker on traffic and safety. His services, we understand, are in considerable demand by Planning Boards, Rotary, Kiwanis and other agencies interested in traffic. One of his attributes as a public figure has been that he remembers a face or a name even after a lapse of ten years. Eddie has been a member of the *Institute of Traffic Engineers* since 1940, and has subsequently served on the Board of Direction.

One might well think that this fellow must be quite a busy chap. But his work extends beyond the limits outlined. Upon request he has just embarked on his third consecutive year as President of the Massachusetts Safety Council. Upon taking over leadership of the organization, he completely reorganized the staff and set in operation a smoothly functioning machine that has earned the plaudits of all concerned. In addition to this activity, he is a member of the Boston Society of Civil Engineers and the American Association of State Highway Officials.

His hobbies consist of golf, sailing and baseball. In fact he is a rabid fan, particularly where the Boston Braves are concerned. Even when this team was at the bottom of the second division, his allegiance never wavered. These native Bostonians never give up.

Persons often ask Copell how he manages to cover so much ground and that without becoming fatigued. He invariably answers that he has learned how to clown. Anyone who knows Eddie realizes that were it not for his marvelous sense of humor he never could carry on in the manner which he does.

(REID, *cont'd from page 452)*
assisted by H. J. Chanon, erected a 1/8-scale model with full control of all factors affecting visibility on lighted streets and highways, together with new instruments and techniques of measurement. One item issuing from the work is the integral Street Lighting Evaluator. The new knowledge gained was at once reflected in new luminaries by all manufacturers, resulting in radically improved visibility per dollar of total lighting cost. Kirk was given due recognition of the significance of this work by the Charles A. Coffin Award and by election to Sigma Xi (Cornell).

Similarly fundamental has been his approach in other lighting fields, and in his war-time work on limiting brightness factors for the National Defense Research Council and the military services. Kirk was in uniform as a Second Lieutenant in the Avia-

"Planned Street Lighting programs APPEAL to communities"....

Says Mayor **Charles E. Slusser,**
Akron, Ohio

"COLD, hard statistics, compiled over the years, bear out the fact that good street lighting is the specific answer to the problem of reducing traffic accidents and crime, ofttimes as much as 40%," says Mayor Charles E. Slusser of Akron, Ohio.

"Convincing proof of the value of a Planned Street Lighting Program is the number of local municipalities that have applied such a program," continues Mayor Slusser, "and wherever Modern Street Lighting goes up, civic pride invariably takes on new stature. It marks any city as a good place to live."

FOR MORE FACTS
Write for your free copy of "A Planned Program for Better Street Lighting."

The Street and Traffic Safety Lighting Bureau, 155 East 44th Street, New York 17, N. Y.

tion Section, Signal Reserve Corps during World War I. Although he remained in mufti during World War II, he was even more active in his various capacities as technical consultant to the military.

His major war-time activity centered on visual aids to traffic movement under blackout conditions. He worked closely with the Corps of Engineers on the blackout driving lamps, various schemes for a "glare barrage" against enemy bombers, and many other equally interesting projects. Several ITE members, including Paul Ristroph, Ed Wetzel, Bob Holmes and Ed Ricker, in uniform at the time, could relate some interesting tales of "researching" with Kirk Reid.

Many of Mr. Reid's important studies have been reported in I.E.S. Transactions since 1936. From time to time he has offered copies of these studies to the entire ITE membership. The latest study that received widespread distribution was his report on "Correlation of Street Lighting and Street Tree Management". He has been an active member of ITE's Street and Highway Lighting Committee since his election to Affiliate membership in 1937. He is a registered engineer in the state of Ohio.

Among Kirk's hobbies are tennis, more tennis, and still more tennis. In fact, he is almost sure he was teethed on a racquet. He says he has played tennis steadily for 42 years. Since his birth is reported officially in the year 1898, we are convinced it is his favorite hobby. He quite modestly mentions his first big award in 1913 while still a high school student, his No. 13 national ranking in 1925, and winning the national clay court father-son doubles in 1947. We *know* from first-hand experience as the opposition (what a beating) back in '41, that Kirk is a top-ranking tennis player.

If the Institute should ever decide to hold its annual meeting in Cleveland, Kirk promises a first-class, interesting field trip to Nela Park.

Positions Wanted

"Tennessee's Most Valuable Crop"—the trained college graduate—is now yours for the asking. We have never had *better graduates* than those now going out into business and industry. Following is an estimate (in some fields) of the number of our graduates in the approaching March and June classes:

	March	*June*
Mechanical Engineers	9	24
Electrical Engineers	15	33
Civil Engineers	10	17
Mathematics	0	10
Accountants	30	55
Marketing	25	40
Economics	10	20
Industrial Mgmt.	25	30
Transportation	10	25
Journalism	3	20
Office Administration	5	25

We invite you to write us a note when an opening develops in your organization.

Sincerely,
JAMES R. JAKES
Assistant Director
Bureau of Personnel Service
Alumni Association
206 Administration Building
University of Tennessee.
Knoxville, Tennessee

osition
, that
player.
decide
Cleve-
inter-

able
ead-
ask-
tter
ing
try.
(in
of
ach-

une

24

33
17
10
55
40
20
30
25
20

25
as a
ops

e

ing